

manufacturing process, the granules are immersed in an acid bath that reacts chemically with the grains, such that the grains dissolve in the acid bath leaving concavities in the granules' surfaces.

In contrast, claim 12 recites a method of manufacture of loose particulate material for use in waste water treatment by contacting granules of plastic material with grains of soluble substance at elevated temperature to coat the granules of plastics material with a layer of the soluble substance grains, and subsequently dissolving the soluble substance grains from the coating to provide the surfaces of the granules with concavities.

Clearly, the art of record, including of Capdeville et al.'s disclosure of grains dispersed throughout the body of the granule, could not have suggested the combination recited in claim 12, including the features of contacting granules of plastic materials with grains of soluble substance at an elevated temperature to coat the granules with the soluble substance grains, or indeed the use of granules of a soluble substance at all.

Further, the inventive method according to claim 12 provides significant advantages as a method of manufacturing a loose particulate material for use in waste water treatment over the method disclosed in Capdeville et al. First, the use of the soluble substance grains followed by a dissolving step is a simpler and safer than the Capdeville et al. process using insoluble grains, which must be chemically reacted with acid to allow them to be removed; Capdeville et al. disclose that the granules should be immersed in an acid bath containing 30% by weight of hydrochloric acid and should be left for half day before being removed and washed with water, resulting in cost, hazard, and toxic waste.

The advantages of Applicants' invention are particularly great when the soluble substance grains include sodium chloride as recited in claim 13, allowing water to be used as the solvent.

Sodium chloride and water are readily available and extremely inexpensive, and the resulting waste product, salt water, is easily disposed.

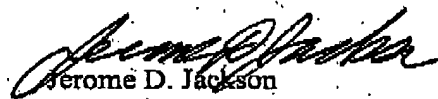
Further, the method of claim 12 allows a particulate material of closely packed concavities with only thin projecting walls separating them, resulting in high surface area and maximum habitat for micro-organisms. In contrast, such an arrangement of closely packed concavities cannot be provided by Capdeville et al. because this would require the granule to be made up almost entirely of the insoluble grains, making control of the granule density impossible, and the resulting granules extremely fragile as there would be insufficient plastics matrix material binding the grains together.

Thus, Applicants respectfully submit that claims 12 and 13 are patentable and that the Application is otherwise in condition for allowance. Applicants respectfully request the timely allowance of these claims.

If there are any other fees required for entry of this Application, please charge such fees to the undersigned attorney's Deposit Account No. 10-0077.

If the Examiner has any questions about this Application, Applicants' representative, Jerome Jackson, can be reached at 703-684-4840.

Respectfully submitted,

  
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